```
     (FILE 'HOME' ENTERED AT 23:40:53 ON 04 JUN 2006)

     FILE 'USPATFULL, CAPLUS' ENTERED AT 23:41:06 ON 04 JUN 2006
L1          1475 FILE USPATFULL
L2           627 FILE CAPLUS
     TOTAL FOR ALL FILES
L3          2102 S BODY (3A) (ODOR? OR ODOUR?)
L4             3 FILE USPATFULL
L5             3 FILE CAPLUS
     TOTAL FOR ALL FILES
L6             6 S L3 AND (ARYLSULFATASE?)
L7             3 FILE USPATFULL
L8             2 FILE CAPLUS
     TOTAL FOR ALL FILES
L9             5 S L3 AND (ARYL (2A) SULFATASE?)
L10            3 FILE USPATFULL
L11            2 FILE CAPLUS
     TOTAL FOR ALL FILES
L12            5 S L3 AND (ARYL-SULFATASE?)
L13            5 FILE USPATFULL
L14            5 FILE CAPLUS
     TOTAL FOR ALL FILES
L15           10 S L6 OR L9 OR L12

=> save all
ENTER NAME OR (END):end

=> save all temp
ENTER NAME OR (END):deordorant/l
L# LIST L1-L15 HAS BEEN SAVED AS 'DEORDORANT/L'
  75% OF LIMIT FOR SAVED L# LISTS REACHED

=> s l15 and ((hydroxy diphenyl ether) or (hydroxydiphenylether) or
(hydroxy-diphenylether))
L16            1 FILE USPATFULL
L17            0 FILE CAPLUS

TOTAL FOR ALL FILES
L18            1 L15 AND ((HYDROXY DIPHENYL ETHER) OR (HYDROXYDIPHENYLETHER) OR
                 (HYDROXY-DIPHENYLETHER))
```

```
=> s body (3a) (odor? or odour?)
L1         1475 FILE USPATFULL
L2          627 FILE CAPLUS

TOTAL FOR ALL FILES
L3         2102 BODY (3A) (ODOR? OR ODOUR?)

=> s l3 and (arylsulfatase?)
L4            3 FILE USPATFULL
L5            3 FILE CAPLUS

TOTAL FOR ALL FILES
L6            6 L3 AND (ARYLSULFATASE?)

=> s l3 and (aryl (2a) sulfatase?)
L7            3 FILE USPATFULL
L8            2 FILE CAPLUS

TOTAL FOR ALL FILES
L9            5 L3 AND (ARYL (2A) SULFATASE?)

=> s l3 and (aryl-sulfatase?)
L10           3 FILE USPATFULL
L11           2 FILE CAPLUS

TOTAL FOR ALL FILES
L12           5 L3 AND (ARYL-SULFATASE?)

=> s l6 or l9 or l12
L13           5 FILE USPATFULL
L14           5 FILE CAPLUS

TOTAL FOR ALL FILES
L15          10 L6 OR L9 OR L12

=> d 1-10 kwic, ibib
```

L15 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

AB In a study to determine the mechanism of generation of a significant component of **body odor**, steroidal axillary malodor, 9 of 10 high odor-forming men had β-glucuronidase and 9 of 10 low odor formers had little or none. Six of 8 high odor formers had detectable **aryl sulfatase** activity and 8 of 10 low odor formers had little or none.

ST **odor body** axillary enzyme; glucuronidase **body odor**; **aryl sulfatase body odor**

IT **Odor** and **Odorous** substances
(**body**, axillary, **aryl sulfatase** and β-glucuronidase in)

IT 9001-45-0, β-Glucuronidase 9016-17-5, **Aryl sulfatase**
RL: BIOL (Biological study)
(in axillary **body odor**)

ACCESSION NUMBER: 1990:628534 CAPLUS
DOCUMENT NUMBER: 113:228534
TITLE: A new mechanism for axillary malodor
AUTHOR(S): Eigen, Edward
CORPORATE SOURCE: USA
SOURCE: Journal of the Society of Cosmetic Chemists (1990), 41(2), 147-9
CODEN: JSCCA5; ISSN: 0037-9832
DOCUMENT TYPE: Journal
LANGUAGE: English

L15 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

AB . . . on a putative substrate, 3β-androstenyl sulfate, was studied. All 3 isolates, 2 coryneform spp. and Staphylococcus hominis/epidermidis, appear to possess **aryl sulfatase** activity which can catalyze the desulfation of steroid sulfates whether they are saturated or unsatd.

ST steroid sulfate desulfation bacteria **body odor**

ACCESSION NUMBER:	1997:181350 CAPLUS
DOCUMENT NUMBER:	126:274611
TITLE:	Transformation of steroid sulfates by human axillary bacteria. A mechanism for human odor formation?
AUTHOR(S):	Gower, D. B.; Mallet, A. I.; Watkins, W. J.; Wallace, L. M.
CORPORATE SOURCE:	Dep. Clin. Biochem., St. Bartholomew's and the Royal London Sch. Med. Dent., London, E1 2AD, UK
SOURCE:	Biochemical Society Transactions (1997), 25(1), 16S CODEN: BCSTB5; ISSN: 0300-5127
PUBLISHER:	Portland Press
DOCUMENT TYPE:	Journal
LANGUAGE:	English

L15 ANSWER 5 OF 10 USPATFULL on STN

SUMM . . . active materials which are inhibitors of odor-producing axillary bacterial exoenzymes. More particularly, it concerns compounds which inhibit the bacterial exoenzymes **aryl sulfatase** and beta glucuronidase responsible for the production of steroidal axillary malodor.

SUMM . . . free steroids. The enzymes which hydrolyze the steroid esters can be any of several bacterial exoesterases--for example, beta-glucuronidase (beta-G) and **aryl sulfatase** (AS). ##STR2##

SUMM The prior art has disclosed various compositions and methods of combating **body odors** in the formulation of deodorant compositions containing deodorant active agents. As an example, U.S. Pat. No.4,565,693 to Marschner, assigned to. . .

SUMM . . . that the deodorant active material possessed the dual function of reducing odor by indirectly inhibiting bacterial growth and chemically neutralizing **body odors**. Certain ingredients, such as inorganic acids, organic acids or water soluble metal salts of fatty acids were thought to deactivate. . .

SUMM . . . more specific object of the invention is to provide deodorant compositions comprising deodorant active material which inhibit the bacterial exoenzymes **aryl sulfatase** and beta glucuronidase responsible for the production of steroidal axillary malodor.

SUMM **Aryl sulfatase** and beta-glucuronidase are the primary bacterial exoenzymes responsible for producing steroidal axillary odor. The deodorant active materials are inhibitors of. . .

DRWD FIG. 4 is a graphic illustration of **aryl sulfatase**, showing a decrease in relative reaction velocity with increasing concentration of three inhibitors;

DRWD FIG. 8 is a graphic illustration of **aryl sulfatase** reactions in the presence of hair treated with Zn-GLY;

DETD . . . hydrolyze steroid esters are responsible for producing steroidal axillary odor. These exoenzymes can be any of several bacterial exoesterases, but **aryl sulfatase** (AS) and beta-glucuronidase (beta-G) are the primary bacterial exoenzymes responsible for producing the steroidal axillary odor.

DETD The human **body** produces sterile, **odorless** apocrine sweat which deposits water-soluble, odorless steroid conjugates onto the hair and skin in the axilla. Bacterial exoenzymes secreted by. . .

DETD Various inhibiting compounds of bacterial exoenzymes, **aryl sulfatase** (AS) and beta-glucuronidase (beta-G), responsible for the production of axillary malodor were tested. Several inhibiting compounds were found which functioned. . .

DETD B-glucuronidase from E. coli and **aryl sulfatase** from Aerobacter aerogenes, 4-methyl umbelliferyl glucuronide, 4-methylumbelliferyl sulfate, 4-methylumbelliferone, and D-saccharic acid-.tangle-solidup.-lactone were purchased from Sigma Chemical Co. Sodium hexametaphosphate. . .

DETD . . . Ohio] as 10 "high-odor formers" and 10 "low-odor formers." Trypticase soy agar plates were prepared containing either 4-MUS (substrate for **aryl sulfatase**) or 4-MUG (substrate for beta-glucuronidase) at a concentration of 25 ppm. Elutions of the swabs were plated on both substrates,. . .

DETD SEMIQUANTITATIVE ASSAYS OF BETA-GLUCURONIDASE AND **ARYL SULFATASE**

DETD . . . ml of 0.1M Tris buffer, pH 7.0. In the first study, apocrine sweat was treated with beta-glucuronidase, (E. coli) and **aryl sulfatase** (Aerobacter aerogenes) at 0.01 mg/ml in Tris buffer, 0.1M, pH 7.0. The apocrine secretion was also treated with the lipophilic. . .

DETD . . . in sweat might produce axillary odor. Sterile, odorless, apocrine secretion was then treated with the individual bacterial enzymes, beta-glucuronidase and **aryl sulfatase** and

also with lipophilic diphtheroid and a mixed culture of axillary bacteria in sterile saline suspension. The results of the. . .

DETD . . . and characterize the implication of lipophilic diphtheroids, the enzyme substrates were exposed to cell-free culture medium. The medium exhibited both **aryl sulfatase** and beta-glucuronidase activity.

DETD . . . a beta-glucuronidase capable of cleaving asteroid glucuronide. From the screening tests it was shown that another class of hydrolytic enzyme, **aryl sulfatase**, was also present in the axillary strains.

DETD It was further shown that a beta-glucuronidase and an **aryl sulfatase**, both of bacterial origin, will cleave odorless compounds in sterile secretion to produce distinct axillary odor, thus implicating the hydrolytic. . .

DETD The generation of odor from the addition of beta-glucuronidase or **aryl sulfatase** or lipophilic diphtheroid to apocrine secretion, can be prevented by the inclusion of the enzyme inhibitor Zn++ and somewhat reduced. . .

DETD Zinc bound to hair acts as an effective inhibitor of two bacterial exoenzymes, **aryl sulfatase** and beta-glucuronidase, which are implicated in the production of steroidal axillary malodor. Clinical testing of the deodorant activity of this. . .

CLM What is claimed is:

2. A deodorant composition according to claim 1, wherein said bacterial exoenzymes are **aryl sulfatase** or beta-glucuronidase.

ACCESSION NUMBER:	97:56327 USPATFULL		
TITLE:	Deodorant compositions comprising inhibitors of odor-producing axillary bacterial exoenzymes		
INVENTOR(S):	Eigen, Edward, East Brunswick, NJ, United States Froebe, Claudia, Piscataway, NJ, United States		
PATENT ASSIGNEE(S):	Colgate-Palmolive Company, New York, NY, United States (U.S. corporation)		
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5643559		19970701
APPLICATION INFO.:	US 1994-206919		19940304 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1991-785585, filed on 30 Oct 1991, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Ivy, C. Warren		
ASSISTANT EXAMINER:	Huang, Evelyn		
LEGAL REPRESENTATIVE:	Ancel, Richard J., Serafino, James M.		
NUMBER OF CLAIMS:	9		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	10 Drawing Figure(s); 5 Drawing Page(s)		
LINE COUNT:	967		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L15 ANSWER 3 OF 10 USPATFULL on STN

AB A non-therapeutic method for the inhibition of β-glucuronidase. **Body odors** result from the decomposition of steroid esters by β-glucuronidase. Specific β-glucuronidase-inhibiting compounds are disclosed.

SUMM . . . invention relates to the non-therapeutic use of selected β-glucuronidase-inhibiting substances in a cosmetic deodorant or antiperspirant composition for reducing the **body odor** caused by decomposition of steroid esters.

SUMM . . . and other fats as well as approx. 10% of proteins. The decomposition products of apocrine perspiration, which substantially contribute towards **body odor**, in particular axillary **body odor**, can be divided into two classes, on the one hand short-chain, in particular C.sub.4-C.sub.10-fatty acids, which can be linear, branched,. . . thereof. The metabolism products of androgens, in particular androstenol (5α-androst-16-en-3β-ol, 5α-androst-16-en-3α-ol) and androstenone (5α-androst-16-en-3-one), for example, are involved in typical **body odor**, especially in men.

SUMM [0006] Combating **body odor** caused by steroids by inhibiting β-glucuronidase is known in the prior art, for example from the publications U.S. Pat. No.. . .

SUMM . . . concentrations at which no bacteriostatic or bactericidal action is yet found. It has been found, surprisingly, that the use of **aryl-sulfatase** inhibitors in deodorants is suitable, especially in men, for preventing the formation of **body odor**. It is possible here for the expert, in the context of his general technical knowledge, to coordinate the active compounds. . .

DETD . . . well as soluble inorganic salts of copper(II), zinc and magnesium, in a cosmetic deodorant or antiperspirant composition for reducing the **body odor** caused by hydrolytic decomposition of steroid esters.

DETD [0058] The present invention also relates to a non-therapeutic method of reducing **body odor** by means of inhibition of β-glucuronidase on the skin, which is characterized in that a cosmetic deodorant or antiperspirant composition. . .

DETD [0059] In a preferred embodiment, the non-therapeutic method for reducing **body odor** by means of β-glucuronidase-inhibiting substances is characterized in that it is employed on men.

CLM What is claimed is:

1. A non-therapeutic method for inhibiting or reducing **body odor** caused by the hydrolytic decomposition of steroid esters by β-glucuronidase comprising adding to a cosmetic deodorant or antiperspirant composition at. . .

17. A non-therapeutic method for reducing **body odor** on the skin comprising applying a cosmetic deodorant or antiperspirant composition comprising at least one β-glucuronidase-inhibiting substance selected from the. . .

19. The method of claim 17 wherein the **arylsulfatase**-inhibiting substances are employed for reducing **body odor** in men.

ACCESSION NUMBER: 2004:298605 USPATFULL

TITLE: Beta-glucuronidase inhibitors for use in deodorants and antiperspirants

INVENTOR(S): Banowski, Bernhard, Duesseldorf, GERMANY, FEDERAL REPUBLIC OF
Hoffmann, Daniele, Duesseldorf, GERMANY, FEDERAL REPUBLIC OF
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Saettler, Andrea, Duesseldorf, GERMANY, FEDERAL REPUBLIC OF

Gerke, Thomas, Neuss, GERMANY, FEDERAL REPUBLIC OF

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004234466	A1	20041125
APPLICATION INFO.:	US 2004-838930	A1	20040504 (10)

RELATED APPLN. INFO.: Continuation of Ser. No. WO 2002-EP11981, filed on 26 Oct 2002, UNKNOWN

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2001-10154368	20011106

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: HENKEL CORPORATION, THE TRIAD, SUITE 200, 2200 RENAISSANCE BLVD., GULPH MILLS, PA, 19406
NUMBER OF CLAIMS: 19
EXEMPLARY CLAIM: 1

10/838930

Shelly DoDson